

E. H. Elwan

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



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## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/117,921 A

Source: 1638

Date Processed by STIC: 10-25-00

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin30help@uspto.gov](mailto:patin30help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

### Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

1638

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/117,921A

DATE: 10/25/2000  
TIME: 17:32:14

Input Set : A:\BROUN1.APP.txt  
Output Set: N:\CRF3\10252000\I117921A.raw

3 <110> APPLICANT: BROUN, Pierre  
4 VAN DE LOO, Frank  
5 BODDUPALLI, Sekhar  
6 SOMERVILLE, Chris  
8 <120> TITLE OF INVENTION: PRODUCTION OF HYDROXYLATED FATTY ACIDS IN GENETICALLY  
9 MODIFIED PLANTS  
11 <130> FILE REFERENCE: 20263/255164  
13 <140> CURRENT APPLICATION NUMBER: 09/117,921A  
14 <141> CURRENT FILING DATE: 1999-03-04  
16 <150> PRIOR APPLICATION NUMBER: 08/597,313  
17 <151> PRIOR FILING DATE: 1996-02-06  
19 <150> PRIOR APPLICATION NUMBER: PCT/US97/02187  
20 <151> PRIOR FILING DATE: 1997-02-06  
22 <160> NUMBER OF SEQ ID NOS: 15  
24 <170> SOFTWARE: PatentIn Ver. 2.1  
26 <210> SEQ ID NO: 1  
27 <211> LENGTH: 543  
28 <212> TYPE: DNA  
29 <213> ORGANISM: Lesquerella fendleri  
31 <220> FEATURE:  
32 <221> NAME/KEY: primer\_bind  
33 <222> LOCATION: (83)  
34 <223> OTHER INFORMATION: nucleotide sequence of pLesq2  
36 <400> SEQUENCE: 1  
37 tattggcacc ggcggcacca ttccaacaat ggatccctag aaaaagatga agtctttgtc 60  
W--> 38 ccacctaaaga aagctgcagt canatgggtat gtcaaaatacc tcaacaaccc tcttggacgc 120  
39 attctggtgt taacagtcca gtttatectc ggggtggcctt tgtatctagc ctttaagtga 180  
40 tcaggtagac cttatgatgg tttegttcca catttcttcc ctcatgcacc tatctttaag 240  
41 gaccgtgaac gtctccagat atacatctca gatgctggta ttctagctgt ctgttatggg 300  
42 ctttaccggt acgctgcttc acaaggattg actgctatga tctgcgtcta cggagtaccg 360  
43 cttttgatag tgaacttttt ccttgtcttg gtcaactttct tgcagcacac tcacccctca 420  
44 ttacctcact atgattcaac cgagtgggaa tggattagag gagctttggg tacggtagac 480  
45 agagactatg gaatcttgaa caagggtgtt cacaacataa cagacaccca cgtagcacac 540  
46 cac 543  
49 <210> SEQ ID NO: 2  
50 <211> LENGTH: 544  
51 <212> TYPE: DNA  
52 <213> ORGANISM: Lesquerella fendleri  
54 <400> SEQUENCE: 2  
55 tataggcacc ggaggcacca ttccaacaca ggatccctcg aaagagatga agtatttgtc 60  
56 ccaaagcaga aatccgcaat caagtggtag ggcgaatacc tcaacaaccc tcttgggtgc 120  
57 atcatgatgt taactgtcca gtctgtctcc ggatggcctt tgtacttagc cttcaacggt 180  
58 tctggcagac cctacaatgg tttegttccc catttcttcc ccaatgtccc tatctacaac 240  
59 gaccgtgaac gctccagat ttacatctct gatgctggta ttctagccgt ctgttatggg 300  
60 ctttaccggt acgctgttgc acaaggacta gcttcaatga tctgtctaaa cggagtcccg 360  
61 cttctgatag ttaacttttt cctcgtcttg atcaattact tacaacacac tcacctgccc 420  
62 ttgctcact atgattcate agagtgggat tggcttagag gagcttttagc tactgttagc 480

Does Not Comply  
Corrected Diskette Needed  
see pp. 1, 2, 5

→ What does "n"  
represent?  
"n" may only represent  
a single base.  
see #10 on  
the Error Summary  
Sheet

RAW SEQUENCE LISTING      DATE: 10/25/2000  
 PATENT APPLICATION: US/09/117,921A      TIME: 17:32:14

Input Set : A:\BROUN1.APP.txt  
 Output Set: N:\CRF3\10252000\I117921A.raw

```

63 agagactatg gaatcttgaa caaggtgttc cataacatca cagacaccca cgtcgcacac 540
64 cact 544
67 <210> SEQ ID NO: 3
68 <211> LENGTH: 1855
69 <212> TYPE: DNA
70 <213> ORGANISM: Lesquerella fendleri
72 <220> FEATURE:
73 <221> NAME/KEY: gene
74 <222> LOCATION: (1)..(1855)
75 <223> OTHER INFORMATION: genomic clone encoding pLesq-HYD
77 <400> SEQUENCE: 3
W--> 78 atgaagcttt ataagaagt agttttctct ggtgacagag aaatttctc aattggtagt 60
W--> 79 gacagttgaa gcaacaggaa caacaaggat ggttggctnt gatgctgatg tggtagatgt 120
80 ttattcatca aatactaaat actacattac ttgttgctgc ctacttctcc tatttccctcc 180
W--> 81 gccacccatt ttggacccac gttcttcca tttaaacct ctctcgtgct attcaccaga 240
82 agagaagcca agagagagag agagagaatg ttctgaggat cattgtcttc ttcatcgtaa 300
83 ttaacgtaag ttttttttga ccaactcatat ctaaaatcta gtacatgcaa tagattaatg 360
84 actgttccctt cttttgatat tttcagcttc ttgaattcaa gatgggtgct ggtggaagaa 420
85 taatggttac cccctcttcc aagaaatcag aaactgaagc cctaaaacgt ggaccatgtg 480
86 agaaaccacc attcactgtt aaagatctga agaaagcaat cccacagcat tgtttcaagc 540
87 gctctatccc tcgttcttcc tectaccttc tcacagatat cactttagtt tcttgcttct 600
88 actacgttgc cacaaattac ttctctcttc ttctcagcc tctctctact taactagctt 660
89 ggcctctcta ttgggtatgt caaggtctgtg tcttaaccgg tatctgggtc attggccatg 720
90 aatgtggtca ccattgcattc agtgactatc aatgggtaga tgacactgtt ggttttatct 780
91 tccattcctt ccttctctgc ccttacttct cctggaaata cagtcacgtg cgtcaccatt 840
92 ccaacaatgg atctctcgag aaagatgaag tctttgtccc accgaagaaa gctgcagtea 900
93 aatggtatgt taaatacctc aacaaccctc ttggacgcat tctggtgta acagttcagt 960
94 ttatcctcgg gtggcctttg tatctagcct ttaatgtatc aggtagacct tatgatggtt 1020
95 tcgcttcaca tttcttccct catgcaccta tctttaaaga ccgagaacgc ctccagatat 1080
96 acatctcaga tgcgtgtatt ctatctgtct gttatggtct ttaccgttac gctgcttcac 1140
97 aaggattgac tgctatgac tgctctatg gactaccgct tttgatagtg aactttttcc 1200
98 ttgtcttggt aactttcttg cagcacctc atcctctggt acctcattat gattcaaccg 1260
99 agtgggaatg gattagagga gctttggtta cggtagacag agactatgga atattgaaca 1320
100 aggtgttcca taacataaca gacacacatg tggctcatca tctctttgca actataccgc 1380
101 attataacgc aatggaagct acagaggcga taaagccaat acttgggtgat tactaccact 1440
102 tcatggaac accgtggtat gtggccatgt atagggaagc aaaggagtgt ctctatgtag 1500
103 aaccggatac ggaacgtggg aagaaagggt tctactatta caacaataag ttatgaggct 1560
104 gataggggca gagaagtgca attatcaatc ttcatttcca tgttttaggt gtcttgttta 1620
W--> 105 agaagctatg ctttttttca ataactcag agtccatnta gttgtgttct ggtgcatttt 1680
106 gcctagttaa gtggtgtcgg aagttagtgt tcaaaactgt tctgtctgtg ctgcccagtg 1740
W--> 107 aagaacaagt ttacgtgttt aaaatactcg gaacgaattg accacacat atccaaaacc 1800
108 ggctatccga attccatata cgaaaaccgg atatccaaat ttccagagta cttag 1855
111 <210> SEQ ID NO: 4
112 <211> LENGTH: 384
113 <212> TYPE: PRT
114 <213> ORGANISM: Lesquerella fendleri
116 <400> SEQUENCE: 4
117 Met Gly Ala Gly Gly Arg Ile Met Val Thr Pro Ser Ser Lys Lys Ser
118 1 5 10 15

```

*Missing mandatory  
 <220> to <223> feature  
 to explain "n's" in  
 the sequence.  
 See #10 on the  
 Error Summary  
 Sheet.*

## RAW SEQUENCE LISTING

DATE: 10/25/2000

PATENT APPLICATION: US/09/117,921A

TIME: 17:32:14

Input Set : A:\BROUN1.APP.txt

Output Set: N:\CRF3\10252000\I117921A.raw

```

120 Glu Thr Glu Ala Leu Lys Arg Gly Pro Cys Glu Lys Pro Pro Phe Thr
121          20          25          30
123 Val Lys Asp Leu Lys Lys Ala Ile Pro Gln His Cys Phe Lys Arg Ser
124          35          40          45
126 Ile Pro Arg Ser Phe Ser Tyr Leu Leu Thr Asp Ile Thr Leu Val Ser
127          50          55          60
129 Cys Phe Tyr Tyr Val Ala Thr Asn Tyr Phe Ser Leu Leu Pro Gln Pro
130          65          70          75          80
132 Leu Ser Thr Tyr Leu Ala Trp Pro Leu Tyr Trp Val Cys Gln Gly Cys
133          85          90          95
135 Val Leu Thr Gly Ile Trp Val Ile Gly His Glu Cys Gly His His Ala
136          100          105          110
138 Phe Ser Asp Tyr Gln Trp Val Asp Asp Thr Val Gly Phe Ile Phe His
139          115          120          125
141 Ser Phe Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His Arg Arg
142          130          135          140
144 His His Ser Asn Asn Gly Ser Leu Glu Lys Asp Glu Val Phe Val Pro
145          145          150          155          160
147 Pro Lys Lys Ala Ala Val Lys Trp Tyr Val Lys Tyr Leu Asn Asn Pro
148          165          170          175
150 Leu Gly Arg Ile Leu Val Leu Thr Val Gln Phe Ile Leu Gly Trp Pro
151          180          185          190
153 Leu Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly Phe Ala
154          195          200          205
156 Ser His Phe Phe Pro His Ala Pro Ile Phe Lys Asp Arg Glu Arg Leu
157          210          215          220
159 Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu
160          225          230          235          240
162 Tyr Arg Tyr Ala Ala Ser Gln Gly Leu Thr Ala Met Ile Cys Val Tyr
163          245          250          255
165 Gly Val Pro Leu Leu Ile Val Asn Phe Phe Leu Val Leu Val Thr Phe
166          260          265          270
168 Leu Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser Thr Glu Trp
169          275          280          285
171 Glu Trp Ile Arg Gly Ala Leu Val Thr Val Asp Arg Asp Tyr Gly Ile
172          290          295          300
174 Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His
175          305          310          315          320
177 Leu Phe Ala Thr Ile Pro His Tyr Asn Ala Met Glu Ala Thr Glu Ala
178          325          330          335
180 Ile Lys Pro Ile Leu Gly Asp Tyr Tyr His Phe Asp Gly Thr Pro Trp
181          340          345          350
183 Tyr Val Ala Met Tyr Arg Glu Ala Lys Glu Cys Leu Tyr Val Glu Pro
184          355          360          365
186 Asp Thr Glu Arg Gly Lys Lys Gly Val Tyr Tyr Tyr Asn Asn Lys Leu
187          370          375          380
193 <210> SEQ ID NO: 5
194 <211> LENGTH: 387
195 <212> TYPE: PRT

```

## RAW SEQUENCE LISTING

DATE: 10/25/2000

PATENT APPLICATION: US/09/117,921A

TIME: 17:32:14

Input Set : A:\BROUN1.APP.txt

Output Set: N:\CRF3\10252000\I117921A.raw

```

196 <213> ORGANISM: Ricinus communis
198 <400> SEQUENCE: 5
199 Met Gly Gly Gly Gly Arg Met Ser Thr Val Ile Thr Ser Asn Asn Ser
200 1 5 10 15
202 Glu Lys Lys Gly Gly Ser Ser His Leu Lys Arg Ala Pro His Thr Lys
203 20 25 30
205 Pro Pro Phe Thr Leu Gly Asp Leu Lys Arg Ala Ile Pro Pro His Cys
206 35 40 45
208 Phe Glu Arg Ser Phe Val Arg Ser Phe Ser Tyr Val Ala Tyr Asp Val
209 50 55 60
211 Cys Leu Ser Phe Leu Phe Tyr Ser Ile Ala Thr Asn Phe Phe Pro Tyr
212 65 70 75 80
214 Ile Ser Ser Pro Leu Ser Tyr Val Ala Trp Leu Val Tyr Trp Leu Phe
215 85 90 95
217 Gln Gly Cys Ile Leu Thr Gly Leu Trp Val Ile Gly His Glu Cys Gly
218 100 105 110
220 His His Ala Phe Ser Glu Tyr Gln Leu Ala Asp Asp Ile Val Gly Leu
221 115 120 125
223 Ile Val His Ser Ala Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser
224 130 135 140
226 His Arg Arg His His Ser Asn Ile Gly Ser Leu Glu Arg Asp Glu Val
227 145 150 155 160
229 Phe Val Pro Lys Ser Lys Ser Lys Ile Ser Trp Tyr Ser Lys Tyr Ser
230 165 170 175
232 Asn Asn Pro Pro Gly Arg Val Leu Thr Leu Ala Ala Thr Leu Leu Leu
233 180 185 190
235 Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp
236 195 200 205
238 Arg Phe Ala Cys His Tyr Asp Pro Tyr Gly Pro Ile Phe Ser Glu Arg
239 210 215 220
241 Glu Arg Leu Gln Ile Tyr Ile Ala Asp Leu Gly Ile Phe Ala Thr Thr
242 225 230 235 240
244 Phe Val Leu Tyr Gln Ala Thr Met Ala Lys Gly Leu Ala Trp Val Met
245 245 250 255
247 Arg Ile Tyr Gly Val Pro Leu Leu Ile Val Asn Cys Phe Leu Val Met
248 260 265 270
250 Ile Thr Tyr Leu Gln His Thr His Pro Ala Ile Pro Arg Tyr Gly Ser
251 275 280 285
253 Ser Glu Trp Asp Trp Leu Arg Gly Ala Met Val Thr Val Asp Arg Asp
254 290 295 300
256 Tyr Gly Val Leu Asn Lys Val Phe His Asn Ile Ala Asp Thr His Val
257 305 310 315 320
259 Ala His His Leu Phe Ala Thr Val Pro His Tyr His Ala Met Glu Ala
260 325 330 335
262 Thr Lys Ala Ile Lys Pro Ile Met Gly Glu Tyr Tyr Arg Tyr Asp Gly
263 340 345 350
265 Thr Pro Phe Tyr Lys Ala Leu Trp Arg Glu Ala Lys Glu Cys Leu Phe
266 355 360 365
268 Val Glu Pro Asp Glu Gly Ala Pro Thr Gln Gly Val Phe Trp Tyr Arg

```

RAW SEQUENCE LISTING      DATE: 10/25/2000  
 PATENT APPLICATION: US/09/117,921A      TIME: 17:32:14

Input Set : A:\BROUN1.APP.txt  
 Output Set: N:\CRF3\10252000\I117921A.raw

```

269      370      375      380
271 Asn Lys Tyr
272 385
275 <210> SEQ ID NO: 6
276 <211> LENGTH: 383
277 <212> TYPE: PRT
278 <213> ORGANISM: Arabidopsis thaliana
280 <400> SEQUENCE: 6
281 Met Gly Ala Gly Gly Arg Met Pro Val Pro Thr Ser Ser Lys Lys Ser
282 1 5 10 15
284 Glu Thr Asp Thr Thr Lys Arg Val Pro Cys Glu Lys Pro Pro Phe Ser
285 20 25 30
287 Val Gly Asp Leu Lys Lys Ala Ile Pro Pro His Cys Phe Lys Arg Ser
288 35 40 45
290 Ile Pro Arg Ser Phe Ser Tyr Leu Ile Ser Asp Ile Ile Ile Ala Ser
291 50 55 60
293 Cys Phe Tyr Tyr Val Ala Thr Asn Tyr Phe Ser Leu Leu Pro Gln Pro
294 65 70 75 80
296 Leu Ser Tyr Leu Ala Trp Pro Leu Tyr Trp Ala Cys Gln Gly Cys Val
297 85 90 95
299 Leu Thr Gly Ile Trp Val Ile Ala His Glu Cys Gly His His Ala Phe
300 100 105 110
302 Ser Asp Tyr Gln Trp Leu Asp Asp Thr Val Gly Leu Ile Phe His Ser
303 115 120 125
305 Phe Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His Arg Arg His
306 130 135 140
308 His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys
309 145 150 155 160
311 Gln Lys Ser Ala Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu
312 165 170 175
314 Gly Arg Ile Met Met Leu Thr Val Gln Phe Val Leu Gly Trp Pro Leu
315 180 185 190
317 Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly Phe Ala Cys
318 195 200 205
320 His Phe Phe Pro Asn Ala Pro Ile Tyr Asn Asp Arg Glu Arg Leu Gln
321 210 215 220
323 Ile Tyr Leu Ser Asp Ala Gly Ile Leu Ala Val Cys Phe Gly Leu Tyr
324 225 230 235 240
326 Arg Tyr Ala Ala Ala Gln Gly Met Ala Ser Met Ile Cys Leu Tyr Gly
327 245 250 255
329 Val Pro Leu Leu Ile Val Asn Ala Phe Leu Val Leu Ile Thr Tyr Leu
330 260 265 270
332 Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser Ser Glu Trp Asp
333 275 280 285
335 Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Asp Tyr Gly Ile Leu
336 290 295 300
338 Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Leu
339 305 310 315 320
341 Phe Ser Thr Met Pro His Tyr Asn Ala Met Glu Ala Thr Lys Ala Ile

```

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/117,921A

DATE: 10/25/2000

TIME: 17:32:15

Input Set : A:\BROUN1.APP.txt

Output Set: N:\CRF3\10252000\I117921A.raw

L:38 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1  
L:78 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:79 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:81 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:105 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:107 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:434 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:652 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:750 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14  
L:771 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15